TAXONOMIC AND NOMENCLATURAL NOTES ON FERNS

ROLLA TRYON AND ALICE TRYON

In preparation of a treatment of the ferns of tropical America changes in the classification and related nomenclature have been made in genera of several families. The status of these in relation to the general classification will appear in our major work but preliminary notice of them is indicated here.

1. Additions are made to *Cheilanthes,* the largest genus of the xeric ferns, that will aid in recognition of infrageneric groups and will be helpful in revisionary work on this large complex. The changes have particularly resulted in a better definition of some other genera, *Pellaea, Notholaena,* and *Doryopteris. Notholaena* is recognized in a restricted sense for the predominently farinose species of America. Other species usually referred to *Notholaena* are placed in *Cheilanthes,* as well as some often referred to *Pellaea* or to *Doryopteris.*

Cheilanthes arequipensis (Maxon) R. & A. Tryon. *comb. nov.,* *Notholaena arequipensis* Maxon, Smiths. Misc. Coll. **65** (8): 9. 1915.

Cheilanthes concolor (Langsd. & Fisch.) R. & A. Tryon, *comb. nov.,* *Pteris concolor* Langsd. & Fisch., Icon. Fil. **19,** t. 21. 1810, *Doryopteris concolor* (Langsd. & Fisch.) Kuhn.

Cheilanthes decora (Brack.) R. & A. Tryon, *comb. nov., Doryopteris decora* Brack., U. S. Expl. Exped. **16:** 103. 1854.

Cheilanthes geraniifolia (Weath.) R. & A. Tryon, *comb. nov., Notholaena geraniifolia* Weath., Jour. Arn. Arb. **27:** 367. 1946.

Cheilanthes lonchophylla (Tryon), R. & A. Tryon, *comb. nov.,* *Notholaena lonchophylla* Tryon, Contrib. Gray Herb. **179:** 19. 1975.

Cheilanthes Lozanii (Maxon) R. & A. Tryon, *comb. nov., Pellaea Lozanii* Maxon, Contrib. U. S. Nat. Herb. **10:** 500. 1908.

Cheilanthes Skinneri (Hook.) R. & A. Tryon, *comb. nov., Pellaea Skinneri* Hook., Sp. Fil. **2:** 141. 1858.

Cheilanthes venusta (Brade) R. & A. Tryon, *comb. nov., Notholaena venusta* Brade, Anais Primeira Reun. Sul-Amer. Bot. **2:** 7. 1940.

2. A rare species of *Cyrtomium* from Central and South America, originally described as *Phegopteris dubium,* is transferred from

Polystichum. This has anastomosing veins, multiseriate sori, and spores with compact, rather than reticulate perispore structure. These characters clearly relate it to *Cyrtomium* rather than *Polystichum* where it is commonly placed.

Cyrtomium dubium (Karst.) R. & A. Tryon, *comb. nov., Phegopteris dubia* Karst., Fl. Columb. **1:** 169, t. 84. 1861, *Polystichum dubium* (Karst.) Diels.

3. The current studies of the classification of the Hymenophyllaceae by K. Iwatsuki will undoubtedly provide new evidence for a reassessment of the genera. Discussions with Prof. Iwatsuki have indicated that several genera will be recognized in addition to *Hymenophyllum* and *Trichomanes* but the formal systematic arrangement awaits completion of his survey. For the present, Morton's treatment (Contrib. U. S. Nat. Herb. Nat. **38:** 153–214, 1968) is followed for the species that are placed in subgenera of either *Hymenophyllum* or *Trichomanes.* Other small or monotypic genera that do not appear to represent major lines of evolution seem better treated as subgenera. The following two changes in nomenclature are required.

Hymenophyllum subgenus **Hymenoglossum** (Presl) R. & A. Tryon, *stat. nov., Hymenoglossum* Presl, Hymen. 35. 1843.

Hymenophyllum subgenus **Rosenstockia** (Copel.) R. & A. Tryon, *stat. nov., Rosentockia* Copel., Gen. Fil. 36. 1947.

4. The genus *Microlepia* has strongly three-lobed, finely echinate spores that are clearly distinct from the verrucate-tuberculate, reticulate, or ridged spores of *Dennstaedtia.* The collection of *Forster,* at the British Museum representing the type of *Dennstaedtia flaccida* (Forst.) Bernh., the type species of *Dennstaedtia,* has echinate spores and thus is placed in *Microlepia.* This necessitates the conservation of the name *Dennstaedtia* T. Moore in order to avoid its replacement by the name *Sitobolium* Desv. The proposal for conservation has been made in Taxon **29:** 512. 1980. Some similarities of these genera in leaf architecture and and indusia suggest a close alliance; however, differences in chromosome numbers and in spores indicate a more distant relation. The following species of New Guinea is placed in the correct genus.

Microlepia concinna R. & A. Tryon, *nom. nov., Dennstaedia concinna* Rosenst., Hedwigia **56:** 349. 1915, not (Presl) Moore, 1857.

5. The distinction between *Odontosoria* and *Sphenomeris* has not been clear, for their species intergrade. It is recommended by Prof. K. U. Kramer, who has monographed the genera of lindseoid ferns, that these two should be merged. Our observations on these genera are in agreement and new combinations are provided for the following species.

Odontosoris Killipii (Maxon) R. & A. Tryon, *comb. nov., Lindsaea Killipii* Maxon, Contrib. Gray Herb. **165:** 74. 1947, *Sphenomeris Killipii* (Maxon) Kramer.

Odontosoria spathulata (Maxon) R. & A. Tryon, *comb. nov., Lindsaea spathulata* Maxon, Contrib. Gray Herb. **165:** 74. 1974, *Sphenomeris spathulata* (Maxon) Kramer.

6. Diversity within the genus *Pellaea* may be recognized in four sections: *Pellaea, Holcochlaena* Baker, *Platyloma* (J. Sm.) Hook. & Baker, and *Ormopteris.* The latter has not previously been placed in the position of a section.

Pellaea section **Ormopteris** (J.Sm) R. & A. Tryon, *stat. nov., Ormopteris* J. Sm., Hist. Fil. 281. 1875.

7. The peculiar Australian genus *Platyzoma* is treated in a separate tribe of the Pteridaceae. The unusual diverse leaves with two sterile forms as well as modified fertile pinnae and incipient heterospory are exceptional features of these plants. It is placed among the pteroids on the basis of the arrangement of the sporangia along but below the terminal part of the veins and the strongly ridged spores.

Pteridaceae tribe **Platyzomateae** (Nakai) R. & A. Tryon, *stat. nov.,* Platyzomataceae Nakai, Bull. Nat. Sci. Mus. Tokyo **29:** 4. 1950.

8. The large genus *Polystichum* contains several divergent species each of which has been recognized as a segregate genus. These four, *Papuapteris, Sorolepidium, Acropelta,* and *Plecosorus* represent only minor evolutionary developments within *Polystichum. Plecosorus* is an American genus with exindusiate sori borne near the more or less modified segment margin.

Polystichum speciosissimum (Kze.) R. & A. Tryon, *comb. nov.*, *Cheilanthes speciosissima* Kze., Analect. Pterid. **35.** 1837, *Plecosorus speciosissimus* (Kze.) Moore.

9. The following species was formerly treated in *Dryopteris* but the peltate indusium, anastomosing veins and imparipinnate lamina ally it very closely to *Stigmatopteris meniscioides.*

Stigmatopteris paludosa (Morton) R. & A. Tryon, *comb. nov.*, *Dryopteris paludosa* Morton, Bull. Torrey Bot. Club **66:** 50. 1939.

10. In *Tectaria* there is remarkable variation of characters that are usually stable and often afford distinguishing generic features, such as the venation, soral position, the indusium, and the type of stem and scales. Several small genera are sometimes recognized on the basis of these and other less important characters such as the architecture and dimorphism of the leaves. Among these in America only *Hypoderris* is significantly different from *Tectaria.*

Tectaria Amphiblestra R. & A. Tryon, *nom. nov., Pteris latifolia* Willd., Sp. Pl. **5:** 370. 1810, not *Tectaria latifolia* (Forst.) Copel., *Amphiblestra latifolia* (Willd.) Presl.

Tectaria panamensis (Hook.) R. & A. Tryon, *comb. nov., Dictyoxiphium panamense* Hook., Gen. Fil. t. 62. 1840.

Tectaria pedata (Desv.) R. & A. Tryon, *comb. nov., Aspidium pedatum* Desv., Mém. Soc. Linn. Paris **6:** 244. 1827, *Camptodium pedatum* (Desv.) Fée.

Tectaria pinnata (C.Chr.) R. & A. Tryon, *comb. nov., Camptodium pinnatum* C.Chr., Kungl. Svenska Vetenska Vetenskapakad. Handl. III, **16** (2): 37. 1937.

Tectaria prolifera (Hook.) R. & A. Tryon, *comb. nov., Faydenia prolifera* Hook., Gen. Fil. t. 53B. 1840, *nom. nov.* for *Aspidium proliferum* Hook. & Grev. 1828, not R. Br. 1810; *Asplenium proliferum* Sw. 1788, not Lam. 1786; *Aspidium Hookeri* Sweet, 1830, *Faydenia Hookeri* (Sweet) Maxon not *Tectaria Hookeri* Brownlie, 1977.

11. The differences of *Trachypteris* and *Saffordia* in lamina architecture are insufficient to distinguish them considering the similarities of areolate venation, a marginal band of acrostichoid sporangia, and cristate spores.

Trachypteris induta (Maxon) R. & A. Tryon, *comb. nov.*, *Saffordia induta* Maxon, Smiths. Misc. Coll. **16** (4): 2. 1913.

BIOLOGY DEPARTMENT AND GRAY HERBARIUM
HARVARD UNIVERSITY
CAMBRIDGE, MASS. 02138